

A. 発明の属する分野の分類(国際特許分類(IPC))

Int.Cl' B29C 47/00

B. 調査を行った分野

調査を行った最小限資料(国際特許分類(IPC))

Int.Cl' B29C 47/00, B05C 5/00, B05D 1/30, B65D 53/00

最小限資料以外の資料で調査を行った分野に含まれるもの

日本国実用新案公報 1926-1996年

日本国公開実用新案公報 1971-2000年

日本国登録実用新案公報 1994-2000年

日本国実用新案登録公報 1996-2000年

国際調査で使用した電子データベース(データベースの名称、調査に使用した用語)

WPI/WPIL (DIALOG)

C. 関連すると認められる文献

引用文献の カテゴリー*	引用文献名 及び一部の箇所が関連するときは、その関連する箇所の表示	関連する 請求の範囲の番号
A	J P, 50-53464, U (株式会社東京計器) 22. 5月. 1975 (22. 05. 75) (ファミリーなし)	1-42
A	J P, 5-69469, A (東海興業株式会社) 23. 3月. 1993 (23. 03. 93) (ファミリーなし)	1-42
A	J P, 9-174655, A (旭硝子株式会社) 8. 7月. 1997 (08. 07. 97) (ファミリーなし)	1-42

 C欄の続きにも文献が列挙されている。 パテントファミリーに関する別紙を参照。

* 引用文献のカテゴリー

「A」特に関連のある文献ではなく、一般的技術水準を示すもの

「E」先行文献ではあるが、国際出願日以後に公表されたもの

「L」優先権主張に疑義を提起する文献又は他の文献の発行日若しくは他の特別な理由を確立するために引用する文献(理由を付す)

「O」口頭による開示、使用、展示等に言及する文献

「P」国際出願日前で、かつ優先権の主張の基礎となる出願

の日の後に公表された文献

「T」国際出願日又は優先日後に公表された文献であって出願と矛盾するものではなく、発明の原理又は理論の理解のために引用するもの

「X」特に関連のある文献であって、当該文献のみで発明の新規性又は進歩性がないと考えられるもの

「Y」特に関連のある文献であって、当該文献と他の1以上の文献との、当業者にとって自明である組合せによって進歩性がないと考えられるもの

「&」同一パテントファミリー文献

国際調査を完了した日
25. 01. 00国際調査報告の発送日
08.02.00国際調査機関の名称及びあて先
日本国特許庁 (ISA/JP)
郵便番号 100
東京都千代田区霞が関三丁目4番3号特許庁審査官(権限のある職員)
青木俊明
印

4F 7820

電話番号 03-3581-1101 内線 3429

特許協力条

E P J S 9

PCT

国際調査報告

(法8条、法施行規則第40、41条)
[PCT18条、PCT規則43、44]

出願人又は代理人 の書類記号YCT-439	今後の手続きについては、国際調査報告の送付通知様式(PCT/ISA/220)及び下記5を参照すること。	
国際出願番号 PCT/JP99/06313	国際出願日 12.11.99 (日.月.年)	優先日 12.11.98 (日.月.年)
出願人(氏名又は名称) サンスター技研株式会社		

国際調査機関が作成したこの国際調査報告を法施行規則第41条(PCT18条)の規定に従い出願人に送付する。
この写しは国際事務局にも送付される。

この国際調査報告は、全部で 2 ページである。

この調査報告に引用された先行技術文献の写しも添付されている。

1. 請求の範囲の一部の調査ができない(第I欄参照)。
2. 発明の單一性が欠如している(第II欄参照)。
3. この国際出願は、ヌクレオチド及び/又はアミノ酸配列リストを含んでおり、次の配列リストに基づき国際調査を行った。
 - この国際出願と共に提出されたもの
 - 出願人がこの国際出願とは別に提出したもの
 - しかし、出願時の国際出願の開示の範囲を越える事項を含まない旨を記載した書面が添付されていない
 - この国際調査機関が書換えたもの
4. 発明の名称は 出願人が提出したものと承認する。
 - 次に示すように国際調査機関が作成した。

5. 要約は 出願人が提出したものと承認する。
 - 第III欄に示されているように、法施行規則第47条(PCT規則38.2(b))の規定により国際調査機関が作成した。出願人は、この国際調査報告の発送の日から1カ月以内にこの国際調査機関に意見を提出することができる。
6. 要約書とともに公表される図は、
第1図とする。 出願人が示したとおりである. なし
 - 出願人は図を示さなかった。
 - 本図は発明の特徴を一層よく表している。

特許協力条約

PCT

国際予備審査報告

REC'D 11 DEC 2000

WIPO

PCT

(法第12条、法施行規則第56条)
〔PCT36条及びPCT規則70〕

出願人又は代理人 の書類記号 YCT-439	今後の手続きについては、国際予備審査報告の送付通知（様式PCT/IPEA/416）を参照すること。	
国際出願番号 PCT/JP99/06313	国際出願日 (日.月.年) 12.11.99	優先日 (日.月.年) 12.11.98
国際特許分類 (IPC) Int. C17 B29C47/00, B05C5/00, B05D1/30, B65D53/00		
出願人（氏名又は名称） サンスター技研株式会社		

1. 国際予備審査機関が作成したこの国際予備審査報告を法施行規則第57条（PCT36条）の規定に従い送付する。

2. この国際予備審査報告は、この表紙を含めて全部で 4 ページからなる。

この国際予備審査報告には、附属書類、つまり補正されて、この報告の基礎とされた及び／又はこの国際予備審査機関に対して訂正を含む明細書、請求の範囲及び／又は図面も添付されている。
(PCT規則70.16及びPCT実施細則第607号参照)
この附属書類は、全部で _____ ページである。

3. この国際予備審査報告は、次の内容を含む。

- I 国際予備審査報告の基礎
- II 優先権
- III 新規性、進歩性又は産業上の利用可能性についての国際予備審査報告の不作成
- IV 発明の単一性の欠如
- V PCT35条(2)に規定する新規性、進歩性又は産業上の利用可能性についての見解、それを裏付けるための文献及び説明
- VI ある種の引用文献
- VII 国際出願の不備
- VIII 国際出願に対する意見

国際予備審査の請求書を受理した日 16.03.00	国際予備審査報告を作成した日 29.11.00
名称及びあて先 日本国特許庁 (IPEA/JP) 郵便番号 100-8915 東京都千代田区霞が関三丁目4番3号	特許庁審査官（権限のある職員） 細井 龍史 電話番号 03-3581-1101 内線 3430
	4F 9446

I. 国際予備審査報告の基礎

1. この国際予備審査報告は下記の出願書類に基づいて作成された。(法第6条(PCT14条)の規定に基づく命令に応答するために提出された差し替え用紙は、この報告書において「出願時」とし、本報告書には添付しない。PCT規則70.16, 70.17)

 出願時の国際出願書類

<input type="checkbox"/> 明細書 第 _____	ページ、	出願時に提出されたもの
<input type="checkbox"/> 明細書 第 _____	ページ、	国際予備審査の請求書と共に提出されたもの
<input type="checkbox"/> 明細書 第 _____	ページ、	付の書簡と共に提出されたもの
<input type="checkbox"/> 請求の範囲 第 _____	項、	出願時に提出されたもの
<input type="checkbox"/> 請求の範囲 第 _____	項、	PCT19条の規定に基づき補正されたもの
<input type="checkbox"/> 請求の範囲 第 _____	項、	国際予備審査の請求書と共に提出されたもの
<input type="checkbox"/> 請求の範囲 第 _____	項、	付の書簡と共に提出されたもの
<input type="checkbox"/> 図面 第 _____	ページ/図、	出願時に提出されたもの
<input type="checkbox"/> 図面 第 _____	ページ/図、	国際予備審査の請求書と共に提出されたもの
<input type="checkbox"/> 図面 第 _____	ページ/図、	付の書簡と共に提出されたもの
<input type="checkbox"/> 明細書の配列表の部分 第 _____	ページ、	出願時に提出されたもの
<input type="checkbox"/> 明細書の配列表の部分 第 _____	ページ、	国際予備審査の請求書と共に提出されたもの
<input type="checkbox"/> 明細書の配列表の部分 第 _____	ページ、	付の書簡と共に提出されたもの

2. 上記の出願書類の言語は、下記に示す場合を除くほか、この国際出願の言語である。

上記の書類は、下記の言語である _____ 語である。

- 国際調査のために提出されたPCT規則23.1(b)にいう翻訳文の言語
- PCT規則48.3(b)にいう国際公開の言語
- 国際予備審査のために提出されたPCT規則55.2または55.3にいう翻訳文の言語

3. この国際出願は、ヌクレオチド又はアミノ酸配列を含んでおり、次の配列表に基づき国際予備審査報告を行った。

- この国際出願に含まれる書面による配列表
- この国際出願と共に提出されたフレキシブルディスクによる配列表
- 出願後に、この国際予備審査(または調査)機関に提出された書面による配列表
- 出願後に、この国際予備審査(または調査)機関に提出されたフレキシブルディスクによる配列表
- 出願後に提出した書面による配列表が出願時における国際出願の開示の範囲を超える事項を含まない旨の陳述書の提出があった
- 書面による配列表に記載した配列とフレキシブルディスクによる配列表に記録した配列が同一である旨の陳述書の提出があった。

4. 補正により、下記の書類が削除された。

- 明細書 第 _____ ページ
- 請求の範囲 第 _____ 項
- 図面 図面の第 _____ ページ/図

5. この国際予備審査報告は、補充欄に示したように、補正が出願時における開示の範囲を越えてされたものと認められるので、その補正がされなかつたものとして作成した。(PCT規則70.2(c)) この補正を含む差し替え用紙は上記1.における判断の際に考慮しなければならず、本報告に添付する。)

V. 新規性、進歩性又は産業上の利用可能性についての法第12条（PCT35条(2)）に定める見解、それを裏付ける文献及び説明

1. 見解

新規性 (N)	請求の範囲 1-42	有
	請求の範囲 7-16, 18, 19, 22, 24-30, 35-39, 41, 42	無
進歩性 (I S)	請求の範囲 1-6, 17, 20, 21, 23, 31-34, 40	有
	請求の範囲 7-16, 18, 19, 22, 24-30, 35-39, 41, 42	無
産業上の利用可能性 (I A)	請求の範囲 1-42	有
	請求の範囲 7-16, 18, 19, 22, 24-30, 35-39, 41, 42	無

2. 文献及び説明 (PCT規則70.7)

【文献一覧】

- 文献 1 JP, 05-192980, A (サンゴバン ピトラージュ アンテナショナル) 3. 8月. 1993 (03. 08. 93) & US, 5336349, A
- 文献 2 JP, 09-239802, A (東海興業株式会社) 16. 9月. 1997 (16. 09. 97) (ファミリーなし)
- 文献 3 JP, 09-174655, A (旭硝子株式会社) 8. 7月. 1997 (08. 07. 97) (ファミリーなし)
- 文献 4 JP, 06-099509, A (ケミテック株式会社) 12. 4月. 1994 (12. 04. 94) (ファミリーなし)
- 文献 5 JP, 03-094876, A (株式会社スリーボンド) 19. 4月. 1991 (19. 04. 91) & US, 5139715, A

【備考】

・請求の範囲1-6, 31-34

上記引用文献1～5には、ガス流の外周空間を流れる高粘度材料、発泡性材料或いはホットメルト材料を流動させながら低速域まで落として中空ビードを不定形に成形することは記載も示唆もされていない。

・請求の範囲7-11, 18, 19, 22, 24-26, 35-38, 41, 42

・引用文献等1, 2

上記引用文献1には、高粘度材料を流動させながら低速域まで落としてビードを不定形に形成する方法及び装置が記載されている（第4欄第8行～第5欄第42行、図1, 2）。

上記引用文献2には、発泡体を形成するための発泡性材料の流れを一方向に生成する発泡流生成工程と、該発泡流を取り囲む外周空間において、高粘度材料の流れを生成する材料生成工程とを有するビード成形方法及び装置が記載されている（第1欄第2～13行、図1）。

引用文献1と引用文献2とは、ともにビードの形成方法及び装置に関する発明であるから、発泡層を有するビードを製造することに着想し、引用文献1に記載の発明と引用文献2に記載の発明とを組み合わせることは当業者が容易になし得ることと認められる。

補充欄（いずれかの欄の大きさが足りない場合に使用すること）

第 V 欄の続き

- ・請求の範囲12, 13, 27-29, 39

- ・引用文献等1, 2

上記引用文献1には、制御信号に応じて所望の位置に移動可能なマニピュレータが取り付けられていることが記載されている。

- ・請求の範囲14, 30

- ・引用文献等1, 2

正しく、成形乃至は塗布されたかどうかを撮像して自動的に判定する技術は周知技術である。

- ・請求の範囲15, 16

- ・引用文献等1, 2

ビードの被塗布体として開閉自在の開閉体も周知のものである。

- ・請求の範囲17, 40

上記引用文献1-5のいずれにも、内側ノズルにガスを供給するガス供給手段は記載も示唆もされていない。

- ・請求の範囲20, 21

上記引用文献等1-5のいずれにも、ピストンポンプの吐出行程に時間差を設けることは記載も示唆もされていない。

- ・請求の範囲23

上記引用文献等1-5のいずれにも、ノズル外壁に材料の流出方向に対し鋭角に交わる斜面が形成されていることは記載も示唆もされていない。

PATENT COOPERATION TREATY

PCT

NOTICE INFORMING THE APPLICANT OF THE COMMUNICATION OF THE INTERNATIONAL APPLICATION TO THE DESIGNATED OFFICES

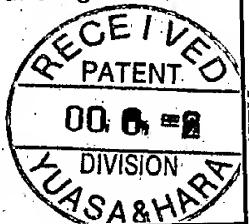
(PCT Rule 47.1(c), first sentence)

Date of mailing (day/month/year) 25 May 2000 (25.05.00)	IMPORTANT NOTICE	
Applicant's or agent's file reference YCT-439	International application No. PCT/JP99/06313	International filing date (day/month/year) 12 November 1999 (12.11.99)
Applicant SUNSTAR GIKEN KABUSHIKI KAISHA et al	Priority date (day/month/year) 12 November 1998 (12.11.98)	

From the INTERNATIONAL BUREAU

To:

SHAMOTO, Ichio
Yuasa and Hara
Section 206, New Otemachi Building
2-1, Otemachi 2-chome
Chiyoda-ku
Tokyo 100-0004
JAPON



1. Notice is hereby given that the International Bureau has communicated, as provided in Article 20, the international application to the following designated Offices on the date indicated above as the date of mailing of this Notice:

JP,US

In accordance with Rule 47.1(c), third sentence, those Offices will accept the present Notice as conclusive evidence that the communication of the international application has duly taken place on the date of mailing indicated above and no copy of the international application is required to be furnished by the applicant to the designated Office(s).

2. The following designated Offices have waived the requirement for such a communication at this time:

EP

The communication will be made to those Offices only upon their request. Furthermore, those Offices do not require the applicant to furnish a copy of the international application (Rule 49.1(a-bis)).

3. Enclosed with this Notice is a copy of the international application as published by the International Bureau on 25 May 2000 (25.05.00) under No. WO 00/29194

REMINDER REGARDING CHAPTER II (Article 31(2)(a) and Rule 54.2)

If the applicant wishes to postpone entry into the national phase until 30 months (or later in some Offices) from the priority date, a demand for international preliminary examination must be filed with the competent International Preliminary Examining Authority before the expiration of 19 months from the priority date.

It is the applicant's sole responsibility to monitor the 19-month time limit.

Note that only an applicant who is a national or resident of a PCT Contracting State which is bound by Chapter II has the right to file a demand for international preliminary examination.

REMINDER REGARDING ENTRY INTO THE NATIONAL PHASE (Article 22 or 39(1))

If the applicant wishes to proceed with the international application in the national phase, he must, within 20 months or 30 months, or later in some Offices, perform the acts referred to therein before each designated or elected Office.

For further important information on the time limits and acts to be performed for entering the national phase, see the Annex to Form PCT/IB/301 (Notification of Receipt of Record Copy) and Volume II of the PCT Applicant's Guide.

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. (41-22) 740.14.35	Authorized officer J. Zahra
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Telephone No. (41-22) 338.83.38	
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PATENT COOPERATION TREATY

PCT

NOTIFICATION CONCERNING
SUBMISSION OR TRANSMITTAL
OF PRIORITY DOCUMENT

(PCT Administrative Instructions, Section 411)

From the INTERNATIONAL BUREAU

To:

SHAMOTO, Ichio
 Yuasa and Hara
 Section 206, New Otemachi Building
 2-1, Otemachi 2-chome
 Chiyoda-ku
 Tokyo 100-0004
 JAPON



Date of mailing (day/month/year) 14 January 2000 (14.01.00)	
Applicant's or agent's file reference YCT-439	IMPORTANT NOTIFICATION
International application No. PCT/JP99/06313	International filing date (day/month/year) 12 November 1999 (12.11.99)
International publication date (day/month/year) Not yet published	Priority date (day/month/year) 12 November 1998 (12.11.98)
Applicant SUNSTAR GIKEN KABUSHIKI KAISHA et al	

1. The applicant is hereby notified of the date of receipt (except where the letters "NR" appear in the right-hand column) by the International Bureau of the priority document(s) relating to the earlier application(s) indicated below. Unless otherwise indicated by an asterisk appearing next to a date of receipt, or by the letters "NR", in the right-hand column, the priority document concerned was submitted or transmitted to the International Bureau in compliance with Rule 17.1(a) or (b).
2. This updates and replaces any previously issued notification concerning submission or transmittal of priority documents.
3. An asterisk(*) appearing next to a date of receipt, in the right-hand column, denotes a priority document submitted or transmitted to the International Bureau but not in compliance with Rule 17.1(a) or (b). In such a case, the attention of the applicant is directed to Rule 17.1(c) which provides that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity, upon entry into the national phase, to furnish the priority document within a time limit which is reasonable under the circumstances.
4. The letters "NR" appearing in the right-hand column denote a priority document which was not received by the International Bureau or which the applicant did not request the receiving Office to prepare and transmit to the International Bureau, as provided by Rule 17.1(a) or (b), respectively. In such a case, the attention of the applicant is directed to Rule 17.1(c) which provides that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity, upon entry into the national phase, to furnish the priority document within a time limit which is reasonable under the circumstances.

<u>Priority date</u>	<u>Priority application No.</u>	<u>Country or regional Office or PCT receiving Office</u>	<u>Date of receipt of priority document</u>
12 Nove 1998 (12.11.98)	10/322177	JP	06 Janu 2000 (06.01.00)

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. (41-22) 740.14.35	Authorized officer Marc Salzman Telephone No. (41-22) 338.83.38
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091831453

Translation

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

RECEIVED
JUL 20 2001
TC 1700

Applicant's or agent's file reference YCT-439	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/JP99/06313	International filing date (day/month/year) 12 November 1999 (12.11.99)	Priority date (day/month/year) 12 November 1998 (12.11.98)
International Patent Classification (IPC) or national classification and IPC B29C 47/00, B05C 5/00, B05D 1/30, B65D 53/00		
Applicant SUNSTAR GIKEN KABUSHIKI KAISHA		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 4 sheets, including this cover sheet.

This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of _____ sheets.

3. This report contains indications relating to the following items:

- I Basis of the report
- II Priority
- III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV Lack of unity of invention
- V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability: citations and explanations supporting such statement
- VI Certain documents cited
- VII Certain defects in the international application
- VIII Certain observations on the international application

Date of submission of the demand 16 March 2000 (16.03.00)	Date of completion of this report 29 November 2000 (29.11.2000)
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

I. Basis of the report

1. With regard to the elements of the international application:*



the international application as originally filed



the description:

pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____

the claims:

pages _____, as originally filed
pages _____, as amended (together with any statement under Article 19)
pages _____, filed with the demand
pages _____, filed with the letter of _____

the drawings:

pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____

the sequence listing part of the description:

pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.
These elements were available or furnished to this Authority in the following language _____ which is:

the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).



the language of publication of the international application (under Rule 48.3(b)).



the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:



contained in the international application in written form.



filed together with the international application in computer readable form.



furnished subsequently to this Authority in written form.



furnished subsequently to this Authority in computer readable form.



The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.



The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of: the description, pages _____
 the claims, Nos. _____
 the drawings, sheets/fig. _____5. This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/JP99/06313

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability: citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-42	YES
	Claims		NO
Inventive step (IS)	Claims	1-6,17,20,21,23,31-34,40	YES
	Claims	7-16,18,19,22,24-30,35-39,41,42	NO
Industrial applicability (IA)	Claims	1-42	YES
	Claims		NO

2. Citations and explanations

[Cited Documents]

Document 1 JP, 05-192980, A (San-Goban Bitoraaju Anterunashonaru), 3 August 1993 (03.08.93) & US, 5336349, A

Document 2 JP, 09-239802, A (Tokai Kogyo K.K.), 16 September 1997 (16.09.97) (Family: none)

Document 3 JP, 09-174655, A (Asahi Glass K.K.), 8 July 1997 (08.07.97) (Family: none)

Document 4: JP, 06-099509, A (Chemitec K.K.), 12 April 1994 (12.04.94) (Family: none)

Document 5: JP, 03-094876, A (Three Bond Co., Ltd.), 19 April 1991 (19.04.91) & US, 5139715, A

[Remarks]

- Claims 1 to 6 and 31 to 34

Documents 1 to 5 cited above neither describe nor suggest the idea of forming hollow beads having irregular shapes by fluidizing a high viscosity material, foaming material, or hot melt material that flows through the outer perimeter space of a gas flow while dropping it down to a low speed region.

- Claims 7 to 11, 18, 19, 22, 24 to 26, 35 to 38, 41, and 42

- Cited documents 1 and 2

Document 1 (column 4, line 8 to column 5, line 42; Figs. 1 and 2) describes a method and apparatus for forming hollow beads having irregular shapes by fluidizing a high viscosity material while dropping it down to a low speed region.

Document 2 (column 1, lines 2 to 13; Fig. 1) describes a bead forming apparatus and method that includes a foam flow producing step that produces in a single direction a flow of foaming material for forming a foamed body and a material producing step that produces a flow of high viscosity material in the outer perimeter space surrounding the foam flow.

Since the inventions described in documents 1 and 2 both relate to a method and apparatus for forming beads, one skilled in the art could have easily conceived the idea of manufacturing beads having a foam layer and arrived at combining the invention described in document 1 with the invention described in document 2.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/JP99/06313

Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of Box V (Citations and explanations):

- Claims 12, 13, 27 to 29, and 39
- Cited documents 1 and 2

Document 1 describes the idea of installing a manipulator that can be moved to the described position in response to a control signal.

- Claims 14 and 30
- Cited documents 1 and 2

Technology that uses imaging to automatically judge if forming or coating have been executed correctly is well known.

- Claims 15 and 16
- Cited documents 1 and 2

The idea of the object to be coated with beads being a lid that can be opened and closed freely is well known.

- Claims 17 and 40

None of documents 1 to 5 describes or suggests a gas feeding means that feeds gas to a inner nozzle.

- Claims 20 to 21

None of documents 1 to 5 describes or suggests the idea of providing a time lag in the discharge cycle of a piston pump.

- Claim 23

None of documents 1 to 5 describes or suggests the idea of forming an inclined surface on the outer wall of a nozzle, the inclined surface intersecting the flow-out direction of the material at a sharp angle.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP99/06313

A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl⁷ B29C47/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
Int.Cl⁷ B29C47/00, B05C5/00, B05D1/30, B65D53/00Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Jitsuyo Shinan Koho 1926-1996 Toroku Jitsuyo Shinan Koho 1994-2000
Kokai Jitsuyo Shinan Koho 1971-2000 Jitsuyo Shinan Toroku Koho 1996-2000Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
WPI/WPIL (DIALOG)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	JP, 50-53464, U (Kabushiki Kaisha Tokyo Keiki), 22 May, 1975 (22.05.75) (Family: none)	1-42
A	JP, 5-69469, A (Tokai Kogyo K.K.), 23 March, 1993 (23.03.93) (Family: none)	1-42
A	JP, 9-174655, A (Asahi Glass K.K.), 08 July, 1997 (08.07.97) (Family: none)	1-42

 Further documents are listed in the continuation of Box C. See patent family annex.

- * Special categories of cited documents:
- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- "&" document member of the same patent family

Date of the actual completion of the international search
25 January, 2000 (25.01.00)Date of mailing of the international search report
08 February, 2000 (08.02.00)Name and mailing address of the ISA/
Japanese Patent Office

Authorized officer

Facsimile No.

Telephone No.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP99/06313

A. CLASSIFICATION OF SUBJECT MATTER
Int.Cl⁷ B29C47/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
Int.Cl⁷ B29C47/00, B05C5/00, B05D1/30, B65D53/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Jitsuyo Shinan Koho 1926-1996 Toroku Jitsuyo Shinan Koho 1994-2000
Kokai Jitsuyo Shinan Koho 1971-2000 Jitsuyo Shinan Toroku Koho 1996-2000

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
WPI/WPIL (DIALOG)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	JP, 50-53464, U (Kabushiki Kaisha Tokyo Keiki), 22 May, 1975 (22.05.75) (Family: none)	1-42
A	JP, 5-69469, A (Tokai Kogyo K.K.), 23 March, 1993 (23.03.93) (Family: none)	1-42
A	JP, 9-174655, A (Asahi Glass K.K.), 08 July, 1997 (08.07.97) (Family: none)	1-42

Further documents are listed in the continuation of Box C.

See patent family annex.

• Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family
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Date of the actual completion of the international search
25 January, 2000 (25.01.00)

Date of mailing of the international search report
08 February, 2000 (08.02.00)

Name and mailing address of the ISA/
Japanese Patent Office

Authorized officer

Facsimile No.

Telephone No.

A. 発明の属する分野の分類(国際特許分類(IPC))

Int.Cl' B29C 47/00

B. 調査を行った分野

調査を行った最小限資料(国際特許分類(IPC))

Int.Cl' B29C 47/00, B05C 5/00, B05D 1/30, B65D 53/00

最小限資料以外の資料で調査を行った分野に含まれるもの

日本国実用新案公報 1926-1996年

日本国公開実用新案公報 1971-2000年

日本国登録実用新案公報 1994-2000年

日本国実用新案登録公報 1996-2000年

国際調査で使用した電子データベース(データベースの名称、調査に使用した用語)

WPI/WPIL (DIALOG)

C. 関連すると認められる文献

引用文献の カテゴリーエ	引用文献名 及び一部の箇所が関連するときは、その関連する箇所の表示	関連する 請求の範囲の番号
A	JP, 50-53464, U (株式会社東京計器) 22. 5月. 1975 (22. 05. 75) (ファミリーなし)	1-42
A	JP, 5-69469, A (東海興業株式会社) 23. 3月. 1993 (23. 03. 93) (ファミリーなし)	1-42
A	JP, 9-174655, A (旭硝子株式会社) 8. 7月. 1997 (08. 07. 97) (ファミリーなし)	1-42

 C欄の続きにも文献が列挙されている。 パテントファミリーに関する別紙を参照。

* 引用文献のカテゴリー

「A」特に関連のある文献ではなく、一般的技術水準を示すもの

「E」先行文献ではあるが、国際出願日以後に公表されたもの

「L」優先権主張に疑義を提起する文献又は他の文献の発行日若しくは他の特別な理由を確立するために引用する文献(理由を付す)

「O」口頭による開示、使用、展示等に言及する文献

「P」国際出願日前で、かつ優先権の主張の基礎となる出願

の日の後に公表された文献

「T」国際出願日又は優先日後に公表された文献であって出願と矛盾するものではなく、発明の原理又は理論の理解のために引用するもの

「X」特に関連のある文献であって、当該文献のみで発明の新規性又は進歩性がないと考えられるもの

「Y」特に関連のある文献であって、当該文献と他の1以上の文献との、当業者にとって自明である組合せによって進歩性がないと考えられるもの

「&」同一パテントファミリー文献

国際調査を完了した日

25. 01. 00

国際調査報告の発送日

08.02.00

国際調査機関の名称及びあて先

日本国特許庁 (ISA/JP)

郵便番号 100

東京都千代田区霞が関三丁目4番3号

特許庁審査官(権限のある職員)

青木俊明

印 4F 7820

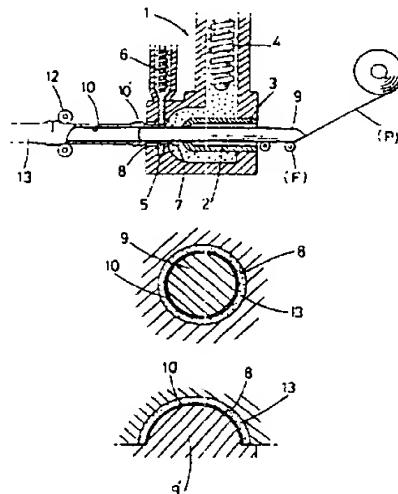
電話番号 03-3581-1101 内線 3429

(54) LIGHTWEIGHT ARTIFICIAL BAMBOO MATERIAL AND CONTINUOUS PRODUCTION THEREOF

(11) 5-69468 (A) (43) 23.3.1993 (19) JP
 (21) Appl. No. 3-260963 (22) 11.9.1991
 (71) MITO KAKO K.K. (72) SHOZO SHIGEMATSU
 (51) Int. Cl. B29C47/02, B29C47/30, B32B1/08, B32B27/12//B44C5/06, B29L23/22

PURPOSE: To continuously mold the thin-walled and lightweight various artificial bamboo materials with nodes in which paper or cloth having flexibility is used as a core material by coating the surface of the core material with synthetic resin for a ground colored film and simultaneously coating the upper layer with synthetic resin for a film having a dark colored pattern as double layers and protruding node parts in the specified intervals in this case.

CONSTITUTION: A core material 10 formed of paper or cloth such as kraft paper or woven fabric having flexibility is produced e.g. by feeding long-sized paper or cloth P having specified width into the backing molds 9 or 9' via a feeder F at the specified velocity. In the case of the circular backing mold 9, for example, the paper or cloth P is cylindrically wound along the face of the mold by a plurality of pairs of rolls touched and provided to the backing mold 9. Further in the case of the circular arclike mold 9', paper or cloth is guided and moved to the respective backing molds 9, 9' in a state wherein it is mated with the surface thereof. In the case of providing a node 10' on the coated material 13 coated on the core material, the feeder F is instantaneously stopped and feed of the paper or cloth P may be stopped.

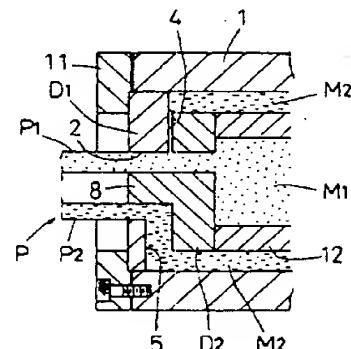


(54) MOLDING METHOD FOR EXTRUDED RUBBER ARTICLE FITTED WITH STRIPE PATTERN HAVING VARIABLE DENSITY

(11) 5-69469 (A) (43) 23.3.1993 (19) JP
 (21) Appl. No. 3-259880 (22) 11.9.1991
 (71) TOKAI KOGYO K.K. (72) HIDETOSHI ARIMA(1)
 (51) Int. Cl. B29C47/04, B29C47/12//B29K21/00

PURPOSE: To extrude the title extruded rubber article by fitting a stripe pattern which is not a single stripe pattern but has variable density along the lengthwise direction and is cut midway and often fades in color according to circumstances on the surface of the extruded rubber article.

CONSTITUTION: Many slitlike discharge ports 4 facing an extrusion port 2 are formed in a first molding die D₁. When a second raw material M₂ is discharged from the slitlike discharge ports 4 by extrusion pressure of the raw material in a state wherein a first raw material M₁ is extruded from the extrusion port 2, the second raw material M₂ is irregularly discharged because the flow properties of the raw material are made bad in the parts of the slitlike discharge ports 4. Thereby a stripe pattern having variable density is cut midway and formed on the surface of an extruded rubber article.

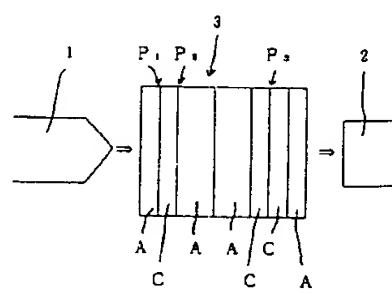


(54) METHOD FOR EXTRUDING FILM

(11) 5-69470 (A) (43) 23.3.1993 (19) JP
 (21) Appl. No. 3-234598 (22) 13.9.1991
 (71) SEKISUI CHEM CO LTD (72) SHIGERU KONUMA(1)
 (51) Int. Cl. B29C47/68//B29L23/22

PURPOSE: To obtain a method for extruding a film by which a foreign matter in molten resin is effectively removed without reducing extrusion output and generation of a fish eye is lowered.

CONSTITUTION: A plurality of screens 3 are interposed between an extrusion screw 1 and an extrusion mold 2 and thereby a foreign matter in molten resin is removed. In this method for extruding a film, a collected screen body is used wherein coarse mesh screens A are interposed between fine mesh screens C.



PATENT COOPERATION TREATY

PCT
NOTIFICATION OF ELECTION
(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Commissioner
US Department of Commerce
United States Patent and Trademark
Office, PCT
2011 South Clark Place Room
CP2/5C24
Arlington, VA 22202
ETATS-UNIS D'AMERIQUE

in its capacity as elected Office

Date of mailing (day/month/year) 18 December 2000 (18.12.00)
International application No. PCT/JP99/06313
International filing date (day/month/year) 12 November 1999 (12.11.99)
Applicant OKUDA, Shinji et al

Applicant's or agent's file reference
YCT-439

Priority date (day/month/year)
12 November 1998 (12.11.98)

1. The designated Office is hereby notified of its election made:

in the demand filed with the International Preliminary Examining Authority on:

16 March 2000 (16.03.00)

in a notice effecting later election filed with the International Bureau on:

2. The election was

was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer Masashi HONDA Telephone No.: (41-22) 338.83.38
---	---

ATENT COOPERATION TREATY

From the INTERNATIONAL BUREAU

PCT

NOTIFICATION OF ELECTION

To:

Assistant Commissioner for Patents
United States Patent and Trademark
Office
Box PCT
Washington, D.C.20231
ETATS-UNIS D'AMERIQUE

in its capacity as elected Office

Date of mailing: 25 May 2000 (25.05.00)	in its capacity as elected Office
International application No.: PCT/JP99/06313	Applicant's or agent's file reference: YCT-439
International filing date: 12 November 1999 (12.11.99)	Priority date: 12 November 1998 (12.11.98)
Applicant: OKUDA, Shinji et al	

1. The designated Office is hereby notified of its election made:

in the demand filed with the International preliminary Examining Authority on:

16 March 2000 (16.03.00)

in a notice effecting later election filed with the International Bureau on:

2. The election was

was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

<p>The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland</p> <p>Facsimile No.: (41-22) 740.14.35</p>	<p>Authorized officer:</p> <p style="text-align: center;">J. Zahra</p> <p>Telephone No.: (41-22) 338.83.38</p>
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